DOCUMENT RESUME

ED 451 951 PS 029 414

AUTHOR Hausner, Mary E. Interrante
TITLE The Impact of Kindergarten Intervention Project Accelerated Literacy on Emerging Literacy Concepts and Second Grade Reading Comprehension.
PUB DATE 2000-05-00
NOTE 95p.; Paper presented at the Annual Meeting of the American Educational Research Association (Seattle, WA, April 10-14, 2001). Part of a Doctoral Dissertation, Loyola University, Illinois.
PUB TYPE Dissertations/Theses - Doctoral Dissertations (041) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS Cognitive Ability; *Early Intervention; *Elementary School Students; Full Day Half Day Schedules; Grade 2; Kindergarten; *Kindergarten Children; *Literacy Education; Outcomes of Education; Primary Education; Program Effectiveness; *Reading Improvement

ABSTRACT

This study investigated the relationship between success of an early intervention program Project Accelerated Literacy in the kindergarten year and success in second grade reading performance. The intervention was given only to students who demonstrated a literacy delay on kindergarten literacy assessments. Subjects were 283 kindergarten students enrolled in 6 at-risk schools in a large urban school district. The experimental group participated in the Project Accelerated Literacy program, an extended day intervention in addition to the half-day kindergarten session; the control group participated only in the kindergarten half-day. All students were tested at the beginning and conclusion of the 30-week intervention using subtests of the Observation Survey. A statistically significant difference between control and experimental groups was found prior to the intervention. After 30 weeks of intervention, the difference between the two groups was no longer statistically significant except in Writing Vocabulary. The experimental group scored higher than the control group in Writing Vocabulary after the intervention. Two years later, the students were tested for reading comprehension and cognitive ability using the Iowa Test of Basic Skills and the Cognitive Ability Test. The control group scored significantly higher than the experimental group; the difference decreased when scores were adjusted for cognitive ability. Findings suggest that a kindergarten literacy intervention can significantly increase the literacy scores of low performing students, and that at-risk students need more than one literacy intervention to retain the gains made in their kindergarten year. (HTH)

Reproductions supplied by EDRS are the best that can be made
from the original document.

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ED 451 951

LOYOLA UNIVERSITY CHICAGO

THE IMPACT OF KINDERGARTEN INTERVENTION PROJECT ACCELERATED LITERACY ON EMERGING LITERACY CONCEPTS AND SECOND GRADE READING COMPREHENSION

DEPARTMENT OF CURRICULUM, INSTRUCTION, &
EDUCATIONAL PSYCHOLOGY

BY

MARY E. INTERRANTE HAUSNER

CHICAGO, ILLINOIS

MAY 2000

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY
Mary E. Hausner
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

PS 029414

BEST COPY AVAILABLE

Copyright by Mary E. Interrante Hausner, 2000
All rights reserved

ACKNOWLEDGMENTS

An expression of gratitude is extended to the members of my doctoral committee, Dr. Robert Cienkus, Dr. K. Sue Bernardi, and Dr. Ken Kaufman. Individually and collectively, the members of my doctoral committee gave generously of their time and professional expertise. I appreciate their encouragement, assistance and support.

I am thankful to the Project Accelerated Literacy staff for their consistent efforts to give every child the experiences of a lifetime in a literate world.

I am grateful to my husband, Siegfried, my daughters, Emily, Audrey, and Eleanor, and my son-in-law Aaron , for their inspiration and high expectations that I strive to fulfill.

Finally, I am thankful to my parents, Lester and Mary, who have taught me the joys of attaining difficult goals.

TABLE OF CONTENTS

	Page
ACKNOWLEDGMENTS	iii
LISTS OF TABLES	vi
CHAPTER	
I. THE PROBLEM	1
Purpose	3
Assumptions Underlying the Study	5
Research Questions and Hypotheses	5
Significance of the Study	6
Limitations of the Study	7
Definition of Terms	8
II. REVIEW OF THE LITERATURE	11
Why an Early Intervention in Literacy?	11
What are the Predictors for Success in School?	15
What are the Best Practices for Early Literacy Intervention?	23
III. PROCEDURES	29
Research Design	29
Research Questions and Hypotheses	29
Pilot Study	31
Sample and Sampling Procedure	35
Instrumentation	39
Data Collection Procedures	42
Data Analysis Procedures	43
Summary	45
IV. RESULTS OF THE STUDY	46
Research Question 1 Related to Kindergarten Performance	47
Research Question 2 Related to Second Grade Performance	50
Research Question 3 Related to Parent Perception of the Program	53

V. SUMMARY, CONCLUSIONS, AND IMPLICATIONS 60

Summary of the Study 61
Conclusions 63
Implications 67
Suggested Further Research 71
Summary 72

APPENDIX

A. SURVEY QUESTIONNAIRE 73

REFERENCE LIST 80

VITA 86

LIST OF TABLES

Table		Page
1.	Selection of Schools	36
2.	Equating of Groups	38
3.	t test Comparing Means of Post-tests of the Observation Survey	48
4.	Analysis of Covariance Comparing SAS with means of Post test Scores of the Observation Survey	50
5.	Sample Description of Second Grade Students	51
6.	t test Comparing Means on the ITBS	52
7.	Analysis of Covariance Comparing SAS and ITBS Reading Comprehension	53
8.	Survey Results from Parents Two Years After Treatment	55
9.	Survey Results from Parents of PAL Students Two Years after Treatment	76
10.	Survey Results from Parents of PAL Students Two Years after Treatment	77
11.	Survey Results from Parents of PAL Students Two Years after Treatment	78
12.	Survey Results from Parents of PAL Students Two Years after Treatment	79

Mary E. Interrante Hausner

Loyola University Chicago

THE IMPACT OF KINDERGARTEN INTERVENTION PROJECT ACCELERATED LITERACY ON EMERGING LITERACY CONCEPTS AND SECOND GRADE READING COMPREHENSION

This study was designed to investigate the relationship between success of an early intervention program Project Accelerated Literacy in the Kindergarten year and success in second grade reading performance. The intervention was only given to students who demonstrated a literacy delay on literacy assessments in Kindergarten.

The subjects were 283 Kindergarten students enrolled in six at risk schools in a large urban school district. The experimental group participated in Project Accelerated Literacy program. This program was an extended day intervention in addition to the half-day Kindergarten session. The control group participated in a half day Kindergarten. All Kindergarten students were tested at the beginning and conclusion of the 30-week intervention using sub tests of the Observation Survey. Two years after the intervention, the students from the control and experimental group who remained in the school district were assessed on the Iowa Test of Basic Skills and the Cognitive Ability Test.

A statistically significant difference was found between the control and experimental group on the pretest of the Observation Survey before the intervention. After 30 weeks of intervention, the difference between the two groups was not

statistically significant except in Writing Vocabulary. The experimental group scored higher than the control group in Writing Vocabulary after the intervention.

Two years after the intervention the students were tested for Reading Comprehension and Cognitive Ability. The control group scored significantly higher than the experimental group. The difference decreased when scores were adjusted for cognitive ability. Important implications are; that a Kindergarten literacy intervention can significantly increase the literacy scores of low performing students, and that at risk students need more than one literacy intervention to retain the gains made in their Kindergarten year.

CHAPTER I

THE PROBLEM

Early literacy intervention is a means by which students who are literacy deficient and face failure in the first years of school may catch up to their peers. The importance of these beginning years is emphasized in a report (Boyer, 1995) that states the success of an elementary school is judged by its students' proficiency in reading.

Public awareness for reading has raised expectations for students. Literacy demands placed on students are greater as the years go by. In the early 1900's a signature was sufficient to show literacy. Then memorizing Bible passages was a benchmark of literacy. Later it was a mark of literacy for immigrants to be able to decode text with literal comprehension. However, literal comprehension has limitations. Society demands proficient and advanced readers for demanding jobs (Green & Dixon, 1996). Societal demands put reading abilities at a high premium and reading skills must be attended to early to ensure success. This problem is compounded by the lack of public consensus on the definition of reading and a need for a rich environment to promote literacy experiences.

Many school systems place students who are unsuccessful in Kindergarten into a developmental first grade requiring them to spend an additional year in school before entering regular first grade. There is a disproportionate share of retention in Kindergarten

and primary grades. One view of retention is that it "would be difficult to find another educational practice on which the evidence is so unequivocally negative" (Southern Regional Education Board, 1994). This practice does not produce students ready to read, but instead increased their risk of being a school-drop out. It was determined in 1994 that the practice of retaining students would be replaced by intervening for students lacking literacy behaviors during their Kindergarten year. This replacement program was named Project Accelerated Literacy (PAL).

Project Accelerated Literacy is a language-based program that extends the Kindergarten experience by an additional half day. The focus of the extended day session is to increase time on literacy tasks with a teacher specializing in literacy. There is a class size of twelve students, and teaching assistants are not used, as the student is to learn independence and learn how to learn. Learning centers are literacy work places where there is an authentic need for reading and writing during developmentally appropriate play.

The progress of the PAL program has been reported to the Board of Education each year. Each school shows an increase in literacy concepts during the year of the intervention. The school board members have requested that the program be evaluated in terms of longitudinal growth. PAL is acknowledged and praised because over 90% of the PAL students meet or exceed the district set benchmarks that predict success in first grade. It is clear that the program is making a difference. There is a need to know if the progress of these students can be sustained.

Some of the schools in the school district provide an additional safety net in first

grade called Reading Recovery. R.R. is a reading program that prevents reading failures for students entering first grade (Lyons et al.,. 1993). There is an appraisal of students beginning first grade to locate children making the least progress so they can be offered a supplementary program. The Reading Recovery program shows a high success rate of students catching up to their peers (Pressley, 1998). In order to do this in an accelerated fashion, approximately 20 weeks, the program assumes a prep year of rich literate activities to precede the first grade appraisal. It is important that this literacy assumption be in place for the most at risk students. The PAL program met the literacy needs for students entering first grade.

Purpose

The purpose of this study was to investigate the relationship between success of an early intervention program Project Accelerated Literacy in the Kindergarten year and success in second grade reading performance. Participants were studied at three points in time, fall, 1996, spring, 1997, and spring, 1999. More specifically this investigation correlated the performance of Kindergarten students given the intervention and their performance on a second grade reading test. These results were compared to the performance of Kindergarten students not given the intervention and their performance on a second grade reading performance. It should be noted that the intervention was only given to select students who showed a literacy delay in literacy assessments.

Schools are looking for ways to raise the reading achievement of their students. After reviewing the data on early intervention (Hiebert, 1994), schools with low reading scores were offered the PAL program for their Kindergarten students lacking in literacy

skills.

The school board members requested to know the long-term results of having an early intervention for five-year-old children. Although the PAL program showed favorable pre and post test results, the primary function of the program was to create learners ready for a successful year in first grade in reading and writing. It was also important to see if the results are sustained during second grade.

The PAL program operates as a school based program. The students were served either in their home school or bused to a location before or after attending their home school Kindergarten class. This provided a full day of school with an emphasis on literacy for the students deficient in literacy concepts. The schools chosen for the PAL program all had Title I services available to the students. The schools had a history over the last five-year period of scoring the lowest in the district on standardized test and state assessments.

The district was invested in Reading Recovery and although there were success stories in each first grade class, there was concern about the number of students needing Reading Recovery services and the level of literacy of entering students. After seeking the help of Reading Recovery Teacher Leaders, it was determined that the literacy levels of many Kindergarten students were very low and required additional time in Reading Recovery. A pilot was conducted by Title I on the effectiveness of an additional half-day in the PAL program for at-risk Kindergarten students. The results were dramatically improved entering scores for Reading Recovery students. This proved to strengthen the Reading Recovery program and to allow the program to service more students within a

school year.

Assumptions Underlying the Study

Several assumptions underlie this study. First, the researcher assumed that the sample investigated is representative of students who have not made literacy connections during their years prior to entering Kindergarten. Second, that the sample investigated is representative of Kindergarten students enrolled in an at-risk school. Third, it is assumed that the self-reported demography was sufficiently free of error.

Research Questions and Hypotheses

Research Question 1

Related to Performance during the Kindergarten Year

Will a Kindergarten literacy intervention decrease the difference between the control group of Kindergarten students who did not receive the intervention and the experimental group of Kindergarten students who did receive the intervention?

H1

There is no significant difference in literacy performance growth at the end of Kindergarten year as measured by sub tests on the *Observation Survey* between Control group students, who did not receive a Kindergarten intervention and Experimental group students, who did receive a Kindergarten intervention.

H2

There is no significant difference in literacy performance growth at the end of Kindergarten year as measured by sub tests on the Observation Survey when analyzed by Standard Age Score.

Research Question 2

Related to Performance at the end of Second Grade

Will a Kindergarten literacy intervention have an effect on the reading performances of second grade students as measured by Reading Comprehension the ITBS?

H3

There is no significant difference in Reading Comprehension scores in second grade as measured by Iowa Test of B[illegible]Skills between control group and Experimental group.

H4

There is no significant difference in Reading Comprehension scores in second grade as measured by Iowa Test of Basic Skills when analyzed by Standard Age Score.

Research Question 3

Related to Parent Perception of the Program

Do Parents feel the PAL program had prepared their child for success in school?

Significance of the Study

Early intervention in literacy effectiveness has been investigated over the last decade (Snow, 1998). However, results of reported effectiveness are conflicting. Issues of concern include when an intervention should occur and what should take place during the intervention. Some of the findings have been short term and do not address the expected outcome of a Kindergarten intervention on the primary years of reading instruction. Other studies address isolated skills only, and do not assess the integration of

reading and writing on literacy performance (McQuillan, 1998).

It is important to know if a literacy intervention has improved the literacy skills of low performing Kindergarten students. If a literacy intervention improved the skills of low performing Kindergarten students, did the effects have a continued impact on their second grade reading performance? This longitudinal study allowed for an investigation of the effectiveness of a Kindergarten literacy intervention as it relates to success in literacy acquisition and in second grade reading performance.

As a result of this project, a school district was able to realize the full benefit of early literacy intervention as demonstrated by student performance on standardized reading tests.

Limitations of the Study

Along with many advantages, there are some limitations. The experimental group, who demonstrated a need for literacy training received the intervention, was matched with a control group that did not need literacy training. The control group, who demonstrated advanced literacy skills, did not receive an intervention. It is not the practice of the school district to deny an intervention to at-risk students for research purposes. Therefore, the experimental group included all Kindergarten students from selected schools who demonstrated a need for literacy training. There was not a match with students demonstrating similar needs from comparable demographics. The value of assessing all Kindergarten students demonstrated if the group who were behind their peers in the fall, have caught up to the average of their class and are showing an ability to perform to district benchmarks for first grade.

Definition of Terms

To clarify the terms used in the study, the following definitions were used (Harris & Hodges, 1995).

Socioeconomic Status- The socioeconomic status is a score based upon factors of family income, and operationally defined as the SES score on the school report card.

Limited English Proficiency - Limited English Proficiency is a score based upon factors of a family's first language other than English, and operationally defined as LEP score on the school report card.

Mobility - Mobility is a score based upon the number of times a transfer in or out of a school occurs.

Intervention - An intervention is the differing factor, that which makes a difference between a cause and a result. An intervention program may be a plan of action that will alter the expected learning curve. Any educational program designed to supplement or substitute for an existing condition; government plans specifically intended to give children of low socioeconomic backgrounds added cognitive stimulation.

Early Intervention - An intervention plan or program is that which occurs before first grade or compensatory school age.

Literacy - Literacy is the term that implies an interaction between social demands and individual competencies for reading and writing. "Reading is clearly primary to any definition of literacy...writing as a means of recording and communication, presupposes reading otherwise it is copying" (Venezky, et al., 1990).

Literacy Assessment - A Literacy assessment measures reading and writing tasks.

It is the act or process of gathering data in order to better understand the strengths and weaknesses of student learning, as by observation, testing or interviews.

Observation Survey - The Observation Survey by M. Clay (1993) is used as a literacy assessment for pre-readers and early readers to assess their abilities during performance tasks. It is not standardized with national norms. It is a systematic observation of young children on a criterion reference assessment. The survey has six sub tests. This assessment is administered individually by a trained tester (Clay, 1993).

Observation Survey Sub test:

A. Letter Identification (LID) has a possible score of 54. Students are given a point for each randomly listed alphabet letter both upper and lower case including different types of print for "a" and "g".

B. Word Test (WT) is a list of 20 high frequency words sampling from a reading vocabulary list.

C. Concepts About Print (CAP) is a test of book handling, directionality and print concepts. There is a possible score of 24 points. Students are given a point for each concept they can point to or identify. There is no reading required.

D. Writing Vocabulary (WV) is a timed assessment. The student has ten minutes to write as many words as possible, starting with his/her name. Score is unlimited; one point for each correctly spelled word.

E. Hearing Sounds In Words (HSIW) The student is asked to listen to a dictated sentence and write as many letters and words that represent that

sentence. There is a possible score of 37; the student is given a point for each correct letter representing a sound in the dictation.

E. Text Level (TEXT) The student is asked to read gradient levels of text. The evaluation is based on a score from the Running Record. A score of 90 percent accuracy is necessary to attain that level of text.

CHAPTER II

REVIEW OF RELATED LITERATURE

Studies related to the impact of an early intervention program during Kindergarten year are discussed. The Chapter is divided into three sections. The first section discusses the growing importance of early intervention in literacy achievement. The second section focuses on the predictors for success in literacy achievement. The third section explores the best practices for an early literacy intervention program.

Why an Early Intervention in Literacy?

National and state level academic standards clearly state the need to have all students on grade level in reading and writing. Literacy learning has the highest priority in schools. Standards imply the expectancy for all students; schools in disadvantaged communities have a heavy load to meet the demands on their students.

When looking at learning achievement, the top ten percent of students are working three to five years ahead of the bottom ten-percent in third grade (Hill & Crevola, 1997). There is very little chance of catching up to their peers by grade three. The learning curve is set into motion from the first year in school. This is a crucial starting point that cannot be overlooked. Many states do not mandate a Kindergarten year and thus ignore an important learning year. There is further evidence to suggest that to meet the standards in grade three most of the hard teaching needs to occur in the first

two years of schooling. For this reason, every child must be a successful reader on grade level by the end of first grade. The literacy experiences are to begin at home and continue strongly at every grade. Students who have not made literacy connections in natural settings will require an early intervention.

A mandate that every child is able to read and write by about the age of nine is poorly explained and exerts pressure without proposing a plan. Early intervention is necessary to address these demands. Not all children need an intervention to achieve these standards. "The challenge is knowing when to do what, with whom, and having the flexibility in classrooms to do it" (Clay, 1998, p. 209).

In addition to meeting standards, there is a greater importance for investigating ways of helping young children to read as early as possible. As children progress through school, reading difficulties will affect their ability to participate in many classroom activities. Success in school has a definite impact on a child's self esteem. There is a growing body of evidence that suggests intervention should be offered long before a problem manifests itself in poor performance.

The personal cost of self-esteem is compounded in the frustrations of parents and teachers. The cost multiplies as students need to repeat grades to keep up with their class, or worse, dropping out due to frustration and lack of progress. The learning gap is a repeated phenomenon that must be addressed immediately (Hill & Crevola, 1999).

The implications from government level standards leave many classrooms caught between beliefs and practices that may not fit this new demand. These demands are asking teachers to look carefully at their expectations and adjust their teaching practices.

Teacher expectations and assumptions determine the literacy demands for the class and for the individual child. Some prefer to "leave the child alone" for an additional year for they will grow out of it. These children do not receive assistance because it is their growing time. Unsubstantiated beliefs may determine a child's success or failure in school. A low achiever at the end of the first year in school may:

- receive no interventions out of kindness and optimism that things will come out all right for the child;
- provide supplementary help as they drag themselves behind their classmates year after year;
- eliminate the problem while it is at a workable level and minimize the problem with early intervention (Clay, 1998).

There are three kinds of literacy interventions:

Primary prevention involves children in a broad and healthy set of experiences between birth and entering school so they can problem solve their way in learning.

Secondary prevention involves early detection of low achievement and provides extra support to keep problems from arising.

Tertiary prevention happens after problems have become established and entails compensating for problems (Clay, 1998).

Primary prevention is necessary for all children regardless of economic status. Preschool experiences need to be available to all children. Parenting classes can help to provide a strong base of experiences that will prepare children for problem solving and

embrace new learning. Making these opportunities available is a major problem for early childhood providers. Monetary restraints limit the number of children that participate in sound programs. Parents can not become involved due to working schedules outside the home. The change in family situations has made primary interventions difficult to administer to the children who need it the most.

Secondary prevention is the next most important way of helping children have successful experiences in school settings. This implies that early detection has allowed support to keep problems from forming. There are those that do not like to "interfere" and do not wish to detect problems. Interventions do not need to label or define a child as having problems. Instead, the assessment is to be diagnostic and in order to provide the help to support problems from occurring.

Tertiary prevention must compensate for a problem that has already manifested itself. This has been a major focus of Title I programs for the past decade. Although children with a reading deficit need additional help, this prevention is least effective. Another form of tertiary prevention is a developmental transition classroom. These classrooms propose a risk associated with retention. Their original conception envisioned an intensive year of acceleration that would catch these students up with their peers. In practice very few students received the proper intensive instruction and did not join their peers. Instead they required an additional year in school. The long-term effect is not positive. Retained students too often become older underachievers. In adolescence, underachieving and being older than classmates, are strong predictors of drop out rates (Allington & Cunningham, 1996).

The current research literature on grade retention in such transition programs is alarming. A review of the controlled studies investigating extra-year transition does not show a superior academic performance past first grade, even though the year-older students are compared to students equally unready and recommended for the transitional grade but placed in first grade following Kindergarten.

In reviewing the alternatives, a school system must continue its thrust to provide primary prevention programs and replace remedial programs with intervention programs. The earlier the intervention occurs, the greater the impact on a child's school success. Specifically the intervention needs to occur before first grade. The intervention must precede failure as a learner (Ferguson, 1991).

What are the Predictors for Success in School?

There are many characteristics of children who experience difficulty in learning to read. Culture is a critical consideration as well as socioeconomic status, language minority (ESL/ bilingual), and other special needs. Title I programs are based upon the needs of children of poverty. Allington studied the differences in teaching low-achieving students and those more adept in learning. The evidence suggests that it is the amount of reading that differentiates low achieving students from high achieving students (Stanovich, 1986). He stresses that throughout his studies of effective instructional intervention, no truly specialized materials or teaching strategies demonstrated advantages. This points to the need to provide experiences that meet their needs. Poverty need not be a cause of success or failure in school literacy (Allington & Cunningham, 1996).

Early intervention requires a perspective of what it is the child should do. Just providing activities or programs to students before grade one does not qualify as an early intervention. Success in school is well defined as success in reading (Juel, 1988). There are few records of retention for mathematics deficiencies. With reading as the major goal in early school experiences, it is important to define reading in a comprehensive way.

The following are excerpts from national and state standards and reflect the notion that reading is a complex, interactive process, using basic skills and advanced strategies to make meaning (Braunger & Lewis, 1998):

- The National Literacy Act of 1991 defines literacy as "an individual' ability to read, write, and speak in English and compute and solve problems at levels of proficiency necessary to function on the job and in society to achieve one's goals, and to develop one's knowledge and potential" (IRA/NCTE, 1996, p. 4).
- Being literate in contemporary society means being active, critical, and creative users not only of print and spoken language but also of the visual language of film and television, commercial and political advertising, photography, and more (IRA/NCTE 1996, p. 5).
- Definition of reading..."I define reading as a message-getting, problem-solving activity which increases in power and flexibility the more it is practiced. My definition states that within the directional constraints of the printer's code, language and visual perception responses are

purposefully directed by the reader in some integrated way to the problem of extracting meaning from cues in a text, in sequence, so that the reader brings a maximum of understanding to the author's message" (Clay, 1991, p. 6).

- There has been a well-documented shift from a literal, decoding model of reading to one of reading as a strategic process in which readers construct meaning by interacting with text. They use not only what is in the text - words and their meanings - but what they bring to the text - their own knowledge and experiences to construct meaning (Sweet, 1993, p. 1).
- "Reading is not merely a skill; it is an engagement of the person in a conceptual and social world" (Guthrie, 1997, p. 3). Engaged readers are strategic, knowledgeable, motivated, and social in their approach to learning and using literacy (Morrow, 1996).

Among the lay, there is a lack of public consensus on what we mean by reading. Connie Weaver suggests that the disagreement rest on three conflicting views of what it means to learn to read:

View I Learning to read means learning to pronounce words.

View II Learning to read means learning to identify words and get the meaning.

View III Learning to read means learning to bring meaning to a text in order to get meaning from it (Weaver, 1994, p. 15).

In this study of early intervention, it is indicative that the definition of reading be consistent. When identifying indicators for success it is important to know which view of reading holds the yardstick. Identifying indicators for success in reading is an important step in knowing if the intervention made a difference. The following are essential key indicators for success in reading.

Letter Identification

Letter identification has always been touted as having a high prediction of success in learning to read (Ehri, 1983). Letter naming knowledge measured before instruction has proven to predict success in reading better than I.Q. or parent read to programs (Chall, 1967). Although some studies showed no evidence that letter naming facilitated reading (Jenkins et al., 1972), it appears the different views neglected to note the association of letter name to letter sound. This association made teaching letter sound easy if the child knew the letter names. Letter names provide the terminology needed to talk about the concept of words.

In the Observation Survey (Clay, 1993) the child is asked to name the letter, but is given credit for a response if the sound associated with the letter or a word that begins with that letter can be identified. This information tells if the child is ready to use the letters. Although this skill appears isolated from the reading process, it is associated with discrimination and letter sound association.

Phonological Awareness

Many researchers point to the success of students that demonstrate phonemic awareness through segmentation of words. There is a direct correlation between the effects of training of phonemic segmentation in Kindergarten and their reading and spelling skills (Ball & Blachman, 1991). The "reading skills" were measured by the Word Identification sub test of the Woodcock Johnson. These results assume that reading is identifying words on a list. Phonemic segmentation training produces success on phonemic word reading tests. The Ball and Blachman study does not address the success of phonemic segmentation on the comprehension of reading text.

Phonetic spelling is an important benchmark in literacy development. This task is equally effective in predicting reading achievement. Morris found phonetic spelling is a solid predictor of success in first grade reading. Further studies show that a group that received phonetic training was able to learn more words (Morris, 1993). Aside from the test score, the work samples are invaluable to knowing the phase of development in phonetic spelling and the correlation to reading (Ehri, 1989).

Concept of Word

Morris (1993) found that a consistent indicator of success in reading is the concept of a word. This refers to the child's awareness of the match between the spoken and written word in reading text (Clay, 1991). The ability to point and match one to one is a turning point in reading success (Morris, 1993).

Concepts About Print

Concepts About Print is an assessment that the New Zealand Ministry of Education has selected to use with children at school entry. The "Concepts About Print (C.A.P)" is part of the Observation Survey developed by Marie Clay. The concepts that children need to learn about print include directional movement; one-to-one matching of spoken words to printed words, and book conventions (New Zealand Ministry, The Learner as a Reader, 1996).

The C.A. P. was designed at first as a means of observing the early progress of five-year-old school entrant children. After extensive research in 1963, this assessment became part of a larger observation survey to be used by classroom teachers for systematic observation of children making slower and faster progress. By 1978, this survey was also used to select children for Reading Recovery (Clay, 1998).

There is a particular reason why learners need to grasp book and print orientation skills early in their first year of school. The conventions of written language control how readers direct their attention and what they attend to. This order is vitally important when learning to read and write. These conventions differ from country to country. Wonderful knowledge of letters and sounds cannot serve a reading purpose if the reader is traveling the wrong way. Countries like Germany, Denmark and Israel have reported on how concepts about print are learned in other languages and scripts (Clay, 1998).

Results showed that the C.A.P. score distinguished between those children who knew a great deal about printed language and those who knew very little. The C.A.P. can reliably select out children who have such learning under control from those that do not at

school entry and during that first year at school. It uncovers those who need more attention. The goal is to do away with the need to give more literacy attention to some students and for them to have some automaticity in dealing with print (Clay, 1985). Researchers in America such as Helen Robinson at the University at Chicago in the late 1960s renewed the emphasis on the observation of student behaviors. She cautioned however, that the fact the C.A.P. score might be a good predictor of progress should not be as important as its implications for teaching (Robinson, 1967).

> A close relationship existed between C.A.P. scores at 5:0 and reading success at 6:0 as close as intelligence on an individual test (r=0.60), but when both were tested at 6.0 the relationship was even stronger (r=0.79). This implies that knowing the concepts was helping children progress in reading and that the reading progress was helping the children to learn the advanced concepts. C.A.P. gets better at discriminating good and poor readers during this year and at the same time indicates some of the things that the lowest scorers need to learn (Clay, 1998, p. 116).

Reading Research Quarterly published an independent evaluation of C.A.P. (Johns, 1984). Johns studied 60 American children who were above, average, and below average readers. He also grouped the items of the Print Awareness assessment under major headings.

- Book Orientation

  Front/back of a book

  First/last concept

  Pictures, Words, Letters discrimination

- Print Direction

  Left to right progression

Return sweep movement

Left page before right page

- Letter-Word Concepts

One to one correspondence

Word reversal order

Letter reversal order

Capital/lower case letters

Letter and Word Identification

- Advanced Print Concepts

Punctuation concepts; period, quotation marks, commas

Sight word identification

All the six-year-olds in Grade one obtained perfect scores on book orientation after one year in Kindergarten, but his above average readers scored higher than the below average readers in the other three categories. Thus, he concluded that the print awareness progress might display both as a consequence of what has occurred in a child's life, and as a predictor of further progress in school (Ehri, 1995). This matches the findings from the original New Zealand correlation data (Clay, 1998).

These key indicators predict success in first grade. These same indicators were used in selection of students who will need an early intervention to ensure success in first grade. The Observation Survey is a systematic observation of students engaged in literacy tasks. There are sub tests that utilize these major indicators and have shown

reliability in both the selection of students and predicting success in first grade reading. The individual scores are Letter Identification, Concepts About Print, Writing Vocabulary, Hearing Sounds in Words, and Text Reading.

There are also indicators for instruction that predict success in first grade. In studying the results of the Early Literacy Research Project, success in first grade was attributed to three factors: (1) high expectation for student achievement, (2) structured teaching focused on the learning needs of students, (3) engaged learning time. These factors must also be in place to predict success. It is imperative that an early intervention program embraces these indicators for successful instructional programming as well as the student indicators of success (Hill & Crevola, 1997).

What are the Best Practices for Early Literacy Intervention?

There are basic components explored in the early intervention program called Project Accelerated Literacy. This program was based on the necessary literacy foundations that are required in Reading Recovery, and developmentally appropriate practices for Kindergarten children as described by NAEYC (Bredekamp & Copple, 1997). This section will discuss the following major components for this early literacy program.

- Class size
- Room environment
- Time on task
- Benchmark accountability

- Focused lessons
- Scaffolding framework

Class Size

The early literacy project known as PAL serves 12 students in a class. The research supports noticeable differences in student performance when class size is under fourteen students (Nye et al., 1992). Teacher aids are not employed. The goal is for increased peer interactions while the teacher attention is with individuals and small groups (Field, 1980).

Smaller class size of 12-15 students will not ensure success, but it allows for more personalized instruction and allows for teachers to enhance the quality of their instruction (Cunningham & Allington, 1999).

Room Environment

The room needs to have space for centers, confined yet teacher vision is imperative at all times. Object familiarity appears to be a key to symbolization and meaning making. Children play best when they are familiar with the concepts and objects of play. When choosing objects for centers it is important that they be similar in the contexts in their daily lives. There are three important considerations for including literacy objects into play centers. First, they must have appropriateness, that is both natural and safely used by children. Second, the items must be authentic; they must be an item from the child's home environment. Third, the items must be useful as they imitate literacy behaviors (Neuman & Roskos, 1992).

Each center displays numerous and varied literacy objects.

Art Center: posters, pencils, markers, labeled supplies, directions for constructions

Play Office: calendars, appointment books, message pads, books, signs, pamphlets, business cards, forms, and stencils

House: cook books, coupons, advertisements, play money message board, telephone book

Book corner: library stamps, bookmarks, pens, stickers

Building: labeled bins, templates, maps, and magazines

Restaurant: menus, order pads, pencils, room signs, place mats, credit cards, bank checks, bills

Post Office: envelopes, stamps, greeting cards, sorting trays, address books, stamp pads

Cooking: rebus print, recipe, cook books, sequential directions, step by step models, templates for utensils

Writing: stencils, stamps, stapler, greeting cards, mailboxes, glitter crayons, colored pencils, book covers, word cards, picture dictionary (Neuman & Roskos, 1997, p. 18).

There is a constant display of print that is familiar to the students surrounding the room at eye level for the child. The same print materials on the class chart are also in the pocket chart, and in individual books at the reading center. The surrounding environment coerces the student to make connections with play and literacy learning. The room set up

must also accommodate large group, small group, and individual teaching spaces and work tables (Field, 1980).

Time on Task

Historically, a task will improve if it is reinforced with repeated opportunities for practice. The practice is usually performed at the centers in relationship to a child's play. More important is the amount of engaged learning time. This refers to a two-hour block of time for literacy instruction (Hill & Crevola, 1999). In the PAL early intervention, a teacher must plan to meet with each child in large control group activities, small group of three in guided practice, and individual conferences. When the teacher is meeting with groups or individuals, other students are engaged at centers that display literacy tools and tasks. The committed literacy focus must be evident in the planning and implementation of teacher plans.

Benchmark Accountability

Schools committed to the program participated in assessment by the teacher. This provides the teacher with data to drive instruction. It is necessary to have a detailed systematic and on-going profile of the progress of each child. The assessment also alerts the teacher to the tasks that need to be addressed. The assessment also brings a focus to teaching. This monitoring of students to drive instruction has proven to be very successful (Hill & Crevola, 1997). Teaching to standards provides teachers with information on the development of students and how to adjust their teaching to meet the student's needs (Cunningham & Allington, 1999).

Focus Teaching

The literacy commitment demands structured teaching focused on the learning needs of students. This commitment demands a daily block of two hours. The teaching follows a pattern of modeling and practicing skills in large group setting. These same skills are assessed in guided groups, and then the child rehearses the skills independently. This sequence gives the child ample opportunity to be successful and move at an individual pace. Teachers select their teaching points from the assessments. The students are accustomed to the verbiage and format of the required skills. All reading lessons are reciprocal with writing lessons. Thus, one process reinforces the other.

Scaffold Lessons

The lessons are modeled after Margaret Mooney's To, With, and By (Mooney, 1990). Classroom teachers and Reading Recovery teachers refined the framework for early literacy lessons. The To, With, and By model describes levels of support the teacher provides for students to help them to learn independence and how to learn on their own. This is a basic foundation skill that must accompany each literacy task.

In the Reading To or Writing For element, the teacher has most of the control and acts as a model. The teacher demonstrates the literacy concepts. The teacher is in full control and the students see and hear how print works. This activity is the foundation of the framework. Although the teacher is doing the actual reading, the student is required to be actively engaged as they learn how texts are put together, how stories work, and how you look for information. Language development and concepts are an important outcome.

In the Reading and Writing, With element, the teacher shares the reading and writing with confident students and the class has new models, under the teacher direction. Students have the opportunity to imitate the teacher and teach other students.

In Guided Reading/Writing, the student has more control than the teacher does and must perform under the teacher guidance in a small group setting. This is an excellent time to assess student performance.

In Independent Reading/Writing, the By element, the student is in full control of the process and need only be monitored. The practice time requires little or no teacher help. The student is learning by making the newly acquired skills automatic and fluent (Fountas & Pinnell, 1996).

Scaffolding lessons operating within the child's zone of proximal development enables the young student to perform at higher level tasks. Scaffold learning can be described as: I do, and you watch. I do and you help. You do and I help. You do and I watch (Bodrova & Leong, 1996).

CHAPTER III

PROCEDURES

The purpose of this study was to investigate the relationship between success of an early intervention program Project Accelerated Literacy in the Kindergarten year and success in second grade reading performance.

Research Design

The research design and procedures used in the study are described in this chapter. Included are the Research Questions and Hypotheses, pilot study, the sample, sampling procedures, and instrumentation. Finally, data collection and analysis procedures are included. A summary concludes the chapter.

Research Questions and Hypotheses

Research Question 1

Related to Kindergarten Performance

Will a Kindergarten literacy intervention decrease the difference between the control group of Kindergarten students who did not receive the intervention and the experimental group of Kindergarten students who did receive the intervention?

H1

There is no significant difference in literacy performance growth at the end of Kindergarten year as measured by sub tests on the Observation Survey between Control

group students, who did not receive a Kindergarten intervention and Experimental group students, who did receive a Kindergarten intervention.

H2

There is no significant difference in literacy performance growth at the end of Kindergarten year as measured by sub tests on the Observation Survey when analyzed by Standard Age Score.

Research Question 2

Related to Second Grade Performance

Will a Kindergarten literacy intervention have an effect on the reading performances of second grade students as measured by Reading Comprehension the ITBS?

H3

There is no significant difference in Reading Comprehension scores in second grade as measured by Iowa Test of Basic Skills between control group and experimental group.

H4

There is no significant difference in Reading Comprehension scores in second grade as measured by Iowa Test of Basic Skills when analyzed by Standard Age Score.

Research Question 3

Related to Parent Perception of Success

Do parents feel the PAL program had prepared their child for success in school?

Pilot Study

A pilot study was conducted beginning February 1995 through May 1996 in order to define the instructional procedure, which would be used with experimental group during the testing school year 1997. The major concern of the pilot was to establish assessments and curriculum activities that develop literacy in young children. The students selected for the pilot were from two of the six schools in the study. The selected students scored the lowest of their Kindergarten class on the Observation Survey. One group of 12 students participated in the pilot for 16 weeks and two groups of 12 students in each group in a pilot for 24 weeks. The Kindergarten teacher was not the Project Accelerated Literacy intervention teacher. The intervention program differed from the Kindergarten program in the following ways:

Primary Focus

The objective and assessment of the half-day intervention was for literacy growth. The focus for instruction was taken from the Observation Survey (Clay, 1993) to include verbiage, language, and tasks similar to the performance tasks, but not identical to what is required in the sub tests of pre and post intervention.

Class Size

Each classroom had 12 students and one teacher.

Structure of the Curriculum

The structure of the day included eight major components of literacy. There were four reading components and four writing components (Mooney, 1990):

- Read Aloud to children
- Shared Reading
- Guided Reading
- Independent Reading
- Modeled Writing
- Shared Writing
- Guided Writing
- Independent Writing (Fountas & Pinnell, 1996)

Philosophy of Constructivism

The philosophy is one of constructivism and centers on scaffold learning as described in To, With and By (Mooney 1990). This is demonstrated by activities:

- Reading To Children
- Reading With Children
- Children Reading By Themselves
- Writing For Children
- Writing With Children
- Children Writing By Themselves

The constructivist philosophy of scaffold learning was demonstrated throughout the day

1. I do and you watch
2. I do and you help

3. You do and I help

4. You do and I watch (Bodrova, 1996).

Classroom Set Up

Literacy is reflected in the classroom set up. This room arrangement was formulated to include a whole group meeting area on a rug and small group areas known as centers, including:

- writing center
- reading center
- science center
- mathematics center
- block center
- art center
- dramatic play center
- light table
- media table
- cooking area

Literacy tools are provided at each center. All materials are labeled and templates are provided to encourage independence.

Thematic Curriculum

An activity for each area or center involves exploratory and manipulative materials that advance a theme in a particular learning area.

1. Myself - The study is of the body, feelings, senses, colors and families.
2. Foods - The study is of food groups, growing of food, preparation of food.
3. Sea Life - The study is of fish and other ocean life.
4. Community Helpers - The study is of those who help us outside the home and careers.
5. Transportation - The study is of how things move.
6. Farm Life - The study is of animal life cycle and chores on a rural farm.
7. Creepy Crawlies - The study is of insects and life cycles.

Groupings

The PAL class has 12 students. The teacher meets daily in the following settings for both reading and writing activities.

- Teacher meets with the class of 12
- Teacher meets with a small group of three
- Teacher meets individually with each child

Training

The teacher was given training on the administration of the Observation Survey used to select students and also provided a focus of instruction. The intervention teacher had a coach training her as to the structure and implementation of the curriculum. There were three to five visitations made by the director of the program to assure curriculum

implementation.

Summary of Pilot

At the conclusion of both pilots there was sufficient success on the post testing in the Concepts About Print scores and Letter Identification. Teacher observations revealed a greater participation in Kindergarten classrooms and first grade teachers noticed a higher level of preparation for reading instruction. These indicators warranted making the pilot into a district adopted intervention program. The piloted model was accepted as the intervention called Project Accelerated Literacy. The intervention used the pilot as the model, there were no major changes made after the pilot.

Sample and Sampling Procedures

Subjects for the study were 283 Kindergarten students enrolled in six elementary schools in a large urban school district in northeastern Illinois. The schools were selected to be the most at risk due to income, mobility, and Limited English Proficiency. Students for this study were chosen because they were enrolled in these schools from September, 1996 through May, 1997.

The following statistics are reported from the School Year 1996-1997 and reported in Table 1. The percentage of low income ranged from 48.5% to 68.9%. The percentage of Limited English Proficiency ranged from 10.5% to 56.4%. The percentage of student mobility ranged from 33.6% to 68%. School A reported 59.6% low income as based on free and reduced lunch counts, 22.5% Limited English Proficiency, and 44.3% mobility of students. School B reported 68.9% low income as based on free and reduced lunch counts, 56.4% Limited English Proficiency, and 35.3% mobility of students.

School C reported 60.4% low income based on free and reduced lunch counts, 10.5% Limited English Proficiency, and 46.4% mobility of students. School D reported 59.4% low income based on free and reduced lunch counts, 24.7% Limited English Proficiency, 37.8% mobility of students. School E reported 48.5% low income based on free and reduced lunch counts, 35.2% Limited English Proficiency, 68% mobility of students. School F reported 68.2% low income based on free and reduced lunch counts, 45% Limited English Proficiency, 33.6% mobility of students. Table 1 describes the features of the selected schools.

Table 1

Selection of Schools

	% low-income	% LEP	% mobility
School A	59.6	22.5	44.3
School B	68.9	56.4	35.3
School C	60.4	10.5	46.4
School D	59.4	24.7	37.8
School E	48.5	35.2	68.0
School F	68.2	45.0	33.6

All of the 283 students attended a half-day (2.5 hours) Kindergarten session implementing the district wide adopted curriculum. From the pretest, 128 of the lowest

performing students were selected to participate in a Kindergarten intervention called Project Accelerated Literacy (PAL) in addition to their Kindergarten experience. Kindergarten students not participating in the PAL program form the control group. Students participating in the Kindergarten literacy intervention in addition to Kindergarten experience form the experimental group.

Because of the high mobility rates in these six schools, the subjects forming the experimental and control groups were considered if they were enrolled from September, 1996 through May, 1997. These same students were considered to be in their respective groups regardless if they remained in their original school. Gender was at random as selection was based on pretest scores. Mean scores on the pretest are used for selection of students and to distinguish the groups. Control group was composed of 76 males and 79 females with N=155. The distinguishing features for control group was the mean score on Letter Identification (LID) 25.37, mean score on Concepts About Print (CAP) 6.72, mean score on Writing Vocabulary (WV) 1.95, and Hearing Sounds in Words (HSIW) 2.19.

Experimental group was composed of 67 males and 61 females with N=128. The distinguishing features for experimental group was the mean score on LID 6.65, CAP 3.86, WV 0.46 and HSIW 0.26. The following analysis was done with a t test comparing means of control group with experimental group. The difference in the means of the experimental and the control group on Pre Letter Identification test is statistically significant at the .05 level. The difference in the means on the Pre Concepts About Print test is statistically significant at the .05 level. The difference in the means on the Pre

Writing Vocabulary test is statistically significant at the .05 level. The difference in the means on the Pre Hearing Sounds In Words test statistically significant at the .05 level. Features equating the control group and experimental group can be noted in Table 2.

Table 2

Equating of Groups

Features	Control	Experimental	df	t	Sig.
Number	155	128			
Male	76	67			
Female	79	61			
M LID	25.37	6.65	245	12.131	.000
M CAP	6.72	3.86	267	7.609	.000
M WV	1.95	0.46	206	7.645	.000
M HSIW	2.19	0.26	172	5.532	.000

With control group and experimental group being statistically significantly different at the .05 level on the Observation Survey, the goal of the intervention program was to statistically and significantly impact the difference between the two groups.

Instrumentation

Observation Survey Marie Clay

Letter Identification (LID)

Kindergarten students were administered the Letter Identification task. In September of 1996 and May 1997, test administrators pointed to a letter from the random list sheet and the child is given a point for each correct identification. The response may be the letter name, a word that begins with that letter, or a sound the letter makes including both upper and lower case letters and typed differences with g and a. The range of raw scores is 0-54.Reliability is 0.97, split-half. Validity is 0.85 (Clay, 1993).

Concepts About Print (CAP)

Kindergarten students were administered the Concepts About Print task in September 1996 and May 1997. Students were given either Sand (Clay, 1972) or the parallel form, Stones (Clay, 1979), to measure their concepts about print. The CAP has 24 items administered individually in about five to 10 minutes. The test booklet is little story told with a picture alternately on each page and the text. The story is read to the child, and the administrator asks the child to point or help the tester read the story. CAP explores concepts about book orientation; print or picture carry the text message; directionality of lines of print, pages; words, letters, capitals, space, and punctuation (Goodman, 1982). Potential raw scores on the CAP range from 0-24. Reliability coefficients have ranged from 0.73 to 0.89 on test-retest and corrected coefficient of 0.84 – 0.88 (Day & Day, 1980; Johns, 1980). Validity is 0.79 (Clay, 1993).

Writing Vocabulary (WV)

Kindergarten students were administered the Writing Vocabulary task. The test administrator asked the student to write as many words as known in a 10-minute time frame. (If the student stopped it is not necessary to wait the entire allotted time.) The tester may ask the student to write his/her own name and any other names they might know, color words, animal words, and may suggest other basic sight words to the student. The raw score is the number of words spelled correctly in the correct letter sequence. Letter reversals do not affect the score. Reliability is 0.97 on test-retest measures. Validity is 0.82 (Clay, 1993).

Hearing Sounds In Words (HSIW)

Kindergarten students were administered Forms A and C of a dictation task (Clay 1985). In September, 1996, and May, 1997, the test administrators read the sentences and asked the children to write the words in that sentence. Children were given credit for every sound represented accurately.

Iowa Test of Basic Skills Form K Level 8

National Curve Equivalent score on the Comprehension Advanced Skills was used to demonstrate achievement. All groups were administered The Iowa Tests of Basic Skills Form K in February of second grade in order to measure achievement in the areas of reading.

Iowa Tests of Basic Skills has been described as the standard in standardized assessment (Impara & Pake, 1998). Form K was normed in 1995 with well-documented samples. The authors of Iowa Tests of Basic Skills define basic skills as "the entire range

of skills a student needs to progress satisfactorily through school" (Technical Summary I, 1994). The test is an appropriate instrument to use to determine academic achievement as well as to make administrative decisions. The validity of the Iowa Test of Basic Skills is summarized as a collective body of research with overwhelming evidence of positive results that the ITBS scores provide valid measures of basic academic skills, if defined and used in the manner intended. The reliability levels for form K are in the .80s and .90s .(Impara & Pake, 1998).

The specific sub-test examined in this study was Reading/Comprehension. This sub-test measures how well students can comprehend a variety of written materials. In this portion of the test, stories are presented and students answer questions to demonstrate their comprehension of the stories. Stories become progressively longer and more difficult. There are both literal and inferential questions (Technical Summary I, 1994).

Cognitive Abilities Test (CogAT) Form K Level 8

Composite Standard Age Score (SAS) was used to demonstrate student potential. The Cognitive Abilities Test can be used to predict scores on the Iowa Tests of Basic Skills. The Standard Age Score is based on age norms. The Composite Standard Age Score is made up of three parts, Verbal score, Quantitative score, and Non verbal score. Reliabilities are 0.83, 0.89, and 0.91 respectively (Technical Summary I, 1994).

Parent Survey

A four question survey was designed with a six point scale. The areas addressed was the child's confidence on entering first grade, the child's feeling of prepared for first grade, the child's progress in first grade and the child's progress in second grade.

Personal comments were invited.

Data Collection Procedures

Data for the selection of students for the intervention experimental group were collected in early September, 1996. Following the 30 weeks intervention, data was collected in May, 1997. Sub tests from the Observation Survey were individually administered to each student in the sample population both in September, 1996 and in May, 1997. Pre and Post assessments were given to the control group and experimental group.

A Reading Recovery teacher or Reading Recovery Teacher Leader trained all teachers administering the Observation Survey. There was a training session followed by a practice session.

This test was administered by Reading Recovery teachers trained in its use as part of their certification for the Reading Recovery Program, and Project Accelerated Literacy intervention teachers as trained by a Reading Recovery teacher. The testing was administered to individual students outside the classroom. The battery of sub tests took approximately 20 to 30 minutes per child. Raw scores were reported on a data collection sheet.

Iowa Test of Basic Skills Level 8 Form K

This test was given February, 1999 to all second grade students in this school district. The classroom teacher administered this test to the class at two sittings. The test was machine scored by the publisher. The Normal Curve Equivalent (NCE) for Reading Comprehension Advanced Skills was used in this study.

Cognitive Abilities Test Level 8 Form K

This test was given February, 1999 to all second grade students in this school district. The classroom teacher administered this test to the class at two sittings. The test was machine scored by the publisher. The Composite Standard Age Score (SAS) was used in this study.

Parent Survey

A survey was distributed in June, 1999 to all parents of second grade students who attended the PAL program in their Kindergarten year 1997. The survey had four questions with a six-point scale that described the progress and confidence levels of their child. Comments were invited. A self addressed envelope was enclosed with the survey along with a book for the child to read, enjoy and keep. A letter explaining the use of the survey and the importance of their reply accompanied each survey.

Data Analysis Procedures

Observation Survey

Four of the six sub tests were used for selection of students and for post testing at the end of the Kindergarten year. These sub tests were chosen because they demonstrate authentic performance in reading and writing skills. The information from the raw scores determined the level of literacy the student had achieved.

Letter Identification (LID) with a possible score of 54

Concepts About Print (CAP) with a possible score of 24

Writing Vocabulary (WV) score of one for each correctly written word in 10 min. time limit

Hearing Sounds In Words (HSIW) with a possible score of 37

The raw scores on each sub-test of the Observation Survey were analyzed to determine the group mean score for that sub test. This was done for control group and experimental group. The mean scores for each group were compared to determine the statistically significant differences between the two groups for each sub test. This procedure was done in September, 1996 and compared to the procedure repeated in May, 1997. A t test was used to compare the mean scores of the control group and experimental group and also to compare the pre and post test scores within each group.

Iowa Test of Basic Skills (ITBS)

This test was given in February, 1999 to all second-grade students in this school district. The National Curve Equivalent (NCE) score on the Comprehension Advanced Skills was used to demonstrate reading achievement in second grade.

Cognitive Abilities Test (CogAT)

This test was given in February, 1999 to all second grade students in this school district. The classroom teacher administered this test to the class at two sittings. The test was machine scored by the publisher. The CogAt was used to compute the Composite Standard Age Score (SAS).

Parent Surveys

Parents of all second grade students were asked to respond and indicate the level of progress their child achieved in first and second grade. Their responses were to be returned in a self addressed and stamped envelope that was provided. An analysis of a six-point scale was used to determine the level of confidence and the level of success in

school.

Summary

This study was conducted in six elementary schools in a large city in northeastern Illinois. The subjects were Kindergarten students who were enrolled in a half-day session from September, 1996 through May, 1997. The subjects were 140 girls and 143 boys. A pre test was administered to determine the lowest achieving students in literacy from each school. There were 128 students selected to participate in a Kindergarten literacy intervention for an additional half-day of school. They form the experimental group. The remaining 155 students attended only the half-day session of Kindergarten and form the control group. Both groups were pre tested and post tested using alternate forms of the Observation Survey sub-tests. The scores were analyzed for significant differences and similarities.

Students who participated in Kindergarten in the six schools were given the ITBS and the CogAt in second grade. There were 212 students in the second grade group. Student reading comprehension scores of the control group and the experimental group were analyzed for significant differences and similarities in achievement as predicted on the Cognitive Abilities Test.

CHAPTER IV

RESULTS OF THE STUDY

The purpose of this study was to investigate the relationship between success of an early intervention program Project Accelerated Literacy in the Kindergarten year and success in second grade reading performance.

This chapter includes data analysis, Research Question One with findings related to Hypotheses One and Two, Research Question Two with findings related to Hypotheses Three and Four, and an analysis of Research Question Three. The variables assessed were four sub-tests on the Observation Survey, and Reading Comprehension on the Iowa Test of Basic Skills.

Scores on the pretest are used for selection of students and to distinguish the groups. Features of the control group and the experimental group can be noted in Table 2. With the means of the control group and experimental group being statistically significantly different as based on the Observation Survey, the goal of the intervention program was to statistically significantly decrease the difference between the two groups.

Research Question 1

Related to Kindergarten Performance

Will a Kindergarten literacy intervention decrease the difference between the control group of Kindergarten students who did not receive the intervention and the experimental group of Kindergarten students who did receive the intervention?

Findings Related to Hypothesis 1

Hypothesis 1 stated there is no significant difference in literacy performance growth at the end of Kindergarten year as measured by sub tests on the Observation Survey between control group students, who did not receive a Kindergarten intervention and experimental group students, who did receive a Kindergarten intervention.

Since the two groups were formed based on performance on the pre test, a t test was performed to show the significant differences between the two groups. Table 2, Equating of Groups, contains the descriptive statistics for this analysis.

With significance stated at the .05 level, control group is significantly different from experimental group on LID, CAP, WV, and HSIW before the intervention.

The following statistics are reported on the post-tests of the Observation Survey at the end of Kindergarten Year. The control group reported the mean score on LID 44.72, CAP 13.17, WV 13.08 and HSIW 15.97. The experimental group reported the mean score on LID 42.94, CAP 13.47, WV 16.70, HSIW 16.13. A t test was performed to compare the means of control group and experimental group on the post-tests of the Observation Survey. With significance established at .05, control group is not significantly different from experimental groups measured on Post-test of LID, CAP,

HSIW. Thus the hypothesis has failed to be rejected for Letter Identification, Concepts About Print, and Hearing Sounds In Words post-tests. There was a significant difference as measured on the post-test of WV. This difference showed the experimental group higher than the control group. Thus the hypothesis was rejected for the sub test Writing Vocabulary. Table 3 describes the statistical analysis of the t test procedure on four post-tests of the Observation Survey.

Table 3

t test Comparing the Means of Post-tests of the Observation Survey

Features	Control	Experimental	df	t	Sig.
Number	155	128			
Male	76	67			
Female	79	61			
M PostLID	44.72	42.94	281	1.169	.243
M PostCAP	13.17	13.47	281	-.671	.503
M PostWV	13.08	16.70	281	-3.208	.001
M PostHSIW	15.97	16.13	280	-.139	.890

Findings Related to Hypothesis 2

Hypothesis 2 stated there is no significant difference in literacy performance growth at the end of Kindergarten year as measured by post-tests on the Observation Survey, when analyzed by Standard Age Score.

For this study the Standard Age Score from the Cognitive Ability Test was used to analyze the post-tests of the Observation Survey. An analysis of covariance was used to compare the SAS with the post-tests of control group and experimental group. The statistics are contained in Table 4.

The following analysis of covariance was done comparing the Standard Age Score of the Cognitive Ability Test with the post-test scores or four sub-tests of the Observation Survey. The means have been adjusted before the comparison. The control group reported a mean score on LID 43.30a, CAP 12.71a, WV 11.79a, HSIW 14.91a. The experimental group reported a mean score on LID 45.75a, CAP 14.44a, WV 19.16a, HSIW 18.45a. The difference of the adjusted means of the post Letter Identification test is not statistically significant at the .05 level. Thus the hypothesis has failed to be rejected. The difference of the adjusted means of the post Concepts About Print test is statistically significant at the .05 level. The difference of the adjusted means of the Writing Vocabulary is statistically significant at the .05 level. The difference of the adjusted means of the Hearing Sounds In Words is statistically significant at the .05 level. Thus the hypothesis is rejected. The difference shows an increase for the experimental group above the control group in those three sub-tests. The null hypothesis is rejected. Table 4 describes the statistical analysis of the covariance.

Table 4

Analysis of Covariance Comparing SAS with means of Post test Scores of the Observation Survey

Feature	Control	Experimental	df	F	SIG
M PostLID	43.30a	45.75a	1	2.180	.141
M PostCAP	12.71a	14.44a	1	15.626	.000
M PostWV	11.79a	19.16a	1	39.442	.000
M PostHSIW	14.91a	18.45a	1	7.914	.005

Research Question 2

Related to Second Grade Performance

Will a Kindergarten literacy intervention have an effect on the reading performances of second grade students as measured by Reading Comprehension on the ITBS?

The sample for Hypotheses three and four is composed of second grade students who attended one of the six sample schools for Kindergarten and remained in the district until February of second grade. There are 113 students that form control group composing 73 percent of the original sample and 99 students form experimental group composing 77 percent of the original sample. Table 5 describes the population of the control and experimental groups in second grade.

Table 5

Sample Description of Second Grade Students

	Control	Experimental
N in district	113	99
% Remaining in district	73	77

Findings Related to Hypothesis 3

Hypothesis 3 stated there is no significant difference in Reading Comprehension scores in second grade as measured by Iowa Test of Basic Skills between control group and experimental group.

A t test was used to show the difference of the means for control group and experimental control groups measured by Reading Comprehension NCE score on the Iowa Test of Basic Skills. Table 6 describes the statistical analysis of the t test procedure comparing means of the reading comprehension scores.

The mean score of the control group on the Reading Comprehension test on the ITBS as reported in NCE scores was 51.54. The mean score of the experimental group on the Reading Comprehension test on the ITBS as reported in NCE scores was 37.55. The results show statistically significant differences between the means of the control group and the experimental group. Thus the hypothesis is rejected at the .05 level.

Table 6

t test Comparing the Means on the ITBS

Features	Control	Experimental	df	t	Sig.
Number	113	99			
M NCE ITBS Reading Comprehension	51.54	37.55	210	5.954	.000

Findings Related to Hypothesis 4

Hypothesis 4 stated there is no significant difference in Reading Comprehension NCE scores in second grade as measured by Iowa Test of Basic Skills when analyzed by Standard Age Score.

The adjusted mean score of the control group on the reading comprehension on ITBS reported in NCE scores was 48.48. The adjusted mean score of the experimental group on reading comprehension on ITBS reported in NCE scores was 41.03.

The mean score of the control and experimental group when adjusted for SAS show that the differences in the adjusted means of the Reading Comprehension test are significantly different at the .05 level. Thus the hypothesis is rejected. Table 7 describes the statistical analysis of the covariance of SAS and Reading Comprehension scores.

Table 7

Analysis of Covariance Comparing SAS and ITBS Reading Comprehension

Feature	Control	Experimental	df	F	Sig.
N in district	113	99			
M ITBS Reading Comprehension NCE	48.48a	41.03a	1	11.78	.001

Results of Testing Research Question 3

Related to Parent Perception of the Program

Did Parents feel the PAL program had prepared their child for success in school?

In the spring of 1999, two years after the intervention at the end of second grade, all parents of students who participated in the PAL Kindergarten intervention were sent a questionnaire, letter of intent, and a small book for their child to read. They were asked to complete the questionnaire and return it in the stamped addressed envelope. There were ninety-nine students remaining in the district who were sent the questionnaires. Twenty-one surveys were returned.

Parents were surveyed for their opinion about the PAL program. Specifically, they were asked about their child's confidence level, level of participation for first grade, and subsequent progress in grades one and two. They were also asked for any additional information they would like to share about the program.

The survey asked: how did your child feel about beginning First Grade? Parents

were asked to respond on a continuum of one through six with one representing scared and six representing very confident. Fourteen of the 21 responses were five or six indicating their child was confident or very confident. Seven of the 21 responses were three or four indicating and average level of confidence. No responses indicated the child felt scared to enter first grade.

Parents were then surveyed about their child's level of preparation. They were asked; how prepared was your child for beginning First Grade? Thirteen of the 21 responses indicated prepared or very prepared for First Grade. Seven responded with a three or four indicating an average level of preparation for First Grade. One parent responded that the child was unprepared for First Grade.

In order to rate the child's progress in First Grade, parents were asked to give their opinion ranging from very difficult to very successful. The survey read: Please give me your opinion of your child's First Grade Progress. Fourteen of the 21 returned responses rated their child's progress as successful or very successful. Five of the 21 responses reported adequate progress. Two responses indicated first grade progress was difficult.

Similarly, parents were asked to rate their child's progress in Second Grade. Eleven of the 21 responses reported successful or very successful. Five of the 21 responses reported adequate progress and two responses indicated progress was difficult. Table 8 describes these results.

Table 8

Survey Results from Parents Two Years After Treatment

		RESPONSE VALUE					
		1	2	3	4	5	6
1.	How did your child feel about beginning First Grade?						
N=21		0	0	2	5	6	8
		Scared			average		very confident
2.	How prepared was your child for beginning First Grade?						
N=21		1	0	2	5	5	8
		unprepared			average		very prepared
3.	Please give me your opinion of your child's First Grade Progress.						
N=21		0	2	2	3	7	7
		very difficult			average		very successful
4.	Please give me your opinion of your child's Second Grade Progress.						
N=21		0	2	4	4	5	6
		very difficult			average		very successful

Parents were asked to add personal additional information about the PAL experience. The following are unedited comments generated by this final question: What else would you like me to know about your child's experience in PAL? Child or Teacher replaced actual names of students and teachers.

Parents who indicated their child's progress in first and second grade was successful or very successful made the following comments:

- We couldn't be happier about CHILD'S progress. He was chosen to participate in Challenge Explorers in first and second grades. CHILD still talks about PAL and TEACHER. He was excited to receive the book you sent but he said, "These are easy". Thank you and I hope other children are provided this great program!
- It definitely help him 100%. I wish every child could be in it. My other child just was in it. It also helped 100%. CHILD is an excellent speller. PAL is a wonderful program keep up the wonderful work. Thank you so much, CHILD'S family.
- He's reading good.
- I was hesitant at first about CHILD being in the program because I felt he wasn't "at-risk" and was just around the corner from reading, given the right "keys". However, after he participated, and I saw the concentrated focus of the class, as well as all the wonderful things available to him in the classroom, I would love to see all kids be able to be a part of PAL. Of course TEACHER was wonderful as his teacher! CHILD left PAL reading very well. I don't believe he would have been, if he had only been in the Kindergarten program.
- My son gained a great deal from his PAL experiences. His reading/

writing skills are above average and I credit a great deal of that success to his time spent in PAL. He is confident about his skills and abilities and continues to impress me with his progress. PAL is a valuable asset to our district's children and should be expanded to encompass more children into the program. My son was a handful for his teacher behaviorally, but she persevered and helped him to tap into his potential. I will always be grateful for all the teachers who refuse to give up on those "problem" kids, realizing that much of the behavior stems from lack of self-confidence. By dedicating extra time and effort on these children through programs like PAL, they can regain some of their confidence and become successful students. Thanks again.

- PAL helped CHILD advance very well and give her confidence in her studies. She very eager to learn and does extra homework for fun! She is an excellent student and I want to take this opportunity to say thank you for the chance you gave her and to thank her PAL teacher, TEACHER. Thanks again.

The following are unedited comments generated by the final question: What else would you like me to know about your child's experience in PAL? CHILD or TEACHER replaced names of students and teachers.

Parents who indicated their child's progress in first and second grade was average made the following comments:

- Thanks to PAL it help my daughter open up to other children (she) was very shy, thanks for the book CHILD loves it.
- Very Good program
- She loved PALS! It was a positive memory for her.
- I feel PAL brought him to where he needed to be.

One parent who indicated their child's progress in second grade was difficult made the following comment:

- They still remember the good times.

In response to Survey Question 1: How did your child feel about beginning First Grade? Eight responses or 38.09 percent of the returned surveys rated their child as very confident. Six responses or 28.57 percent of the returned surveys rated their child as confident. Five responses or 23.80 percent of the returned surveys rated their child as high average, while two parents or 9.52 percent rated their child's confidence level as average. There were no responses indicating low average or scared. Table 9 shows the responses for question 1.

In response to Question 2: How prepared was your child for beginning First Grade? Eight parents or 38.09 percent responded very prepared. Five parents or 23.80 percent responded prepared. Five or 23.80 percent responded high average, while 2 or 9.52 percent responded average. There were no responses for low average. There was one response or 4.76 percent responded unprepared. Table 10 shows the responses for question 2.

In response to Survey Question 3: Please give me your opinion of your child's First Grade Progress. Seven or 33.33 percent rated their child as very successful. Seven or 33.33 percent rated their child as successful. Three or 14.28 percent responded high average, while two or 9.52 percent average. Two parents or 9.52 percent rated their child as making difficult progress. There were no responses of very difficult progress. Table 11 shows the responses for question 3.

In response to Survey Question 4: Please give me your opinion of your child's Second Grade Progress. Six parents or 28.57 percent rated their child as very successful, and 5 parents or 23.80 percent rated their child as successful. Four responses or 19.04 percent rated their child's progress as high average and four parents or 19.04 percent rated their child's progress as average. Two responses or 9.52 percent reported difficult progress. There were no responses for very difficult. Table 12 shows the responses for question 4.

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

The purpose of this study was to investigate the relationship between success of an early intervention program Project Accelerated Literacy in the Kindergarten year and success in second grade reading performance. This study was designed to show the impact of a literacy intervention on the emerging literacy concepts of Kindergarten students in a specialized setting. These concepts were assessed through performance on four sub-tests of the Observation Survey. There was further assessment two years after the intervention in second grade. Reading was assessed through performance on the Reading Comprehension test of the ITBS.

The Chapter is divided into three major sections; the first, summary of the study, the second, conclusions, and the third, implications and suggestions for further research. The first major section, summary of the study, includes a brief restatement of the problem, a brief review of the procedures employed in conducting the research, and the specific research hypotheses tested. The second section, the conclusions, includes highlights of the major findings and the detailed conclusions of each of the specific research hypotheses. The emphasis is on the interpretation of the significance of the research findings and what they imply. The final section discusses the implications of the findings and what further research needs to be done.

Summary of the Study

Statement of the Problem

This research investigated the impact of a Kindergarten literacy intervention on the gains made in emerging literacy concepts of Kindergarten students and on reading achievement of second grade students. Four different variables in Kindergarten and one variable in second grade measured the criteria for achievement.

Letter Identification scores

Concepts About Print scores

Writing Vocabulary scores

Hearing Sounds In Words scores

Reading Comprehension Advanced Skills scores

Statement of the Procedures

The Kindergarten enrollment of six schools in one school district was used to select students most in need of literacy intervention. Subjects for the study were 283 Kindergarten students who attended those six at-risk schools from September through May. Valid and reliable measures of literacy were administered in the fall and spring to the Kindergarten students of these six schools. The fall testing created two distinct groups of students. The mean scores of the two groups were considered to be statistically significantly different. The goal was to decrease the differences between the two groups. Both groups were tested in May of Kindergarten year to measure the difference in the two groups 30 weeks after the intervention. Valid and reliable standardized tests were administered to all second grade students in the district. Hypotheses were derived from

the theoretical framework of constructivist learning theory and were tested using comparisons of t tests on the Observation Survey and the ITBS Reading Comprehension. An analysis of covariance was used to analyze the groups with the Standard Age Score.

Specific Research Questions and Hypotheses

Research Question 1

Related to Performance during the Kindergarten Year

Will a Kindergarten literacy intervention decrease the difference between the control group of Kindergarten students who did not receive the intervention and the experimental group of Kindergarten students who did receive the intervention?

Hypothesis 1 stated there is no significant difference in literacy performance growth at the end of Kindergarten year as measured by sub tests on the Observation Survey between Control group students, who did not receive a Kindergarten intervention and Experimental group students, who did receive a Kindergarten intervention.

Hypothesis 2 stated there is no significant difference in literacy performance growth at the end of Kindergarten year as measured by sub tests on the Observation Survey when analyzed by Standard Age Score.

Research Question 2

Related to Performance at the end of second Grade

Will a Kindergarten literacy intervention have an effect on the reading performances of second grade students as measured by Reading Comprehension the ITBS?

Hypothesis 3 stated there is no significant difference in Reading Comprehension

scores in second grade as measured by Iowa Test of Basic Skills between control group and experimental group.

Hypothesis 4 stated there is no significant difference between the control and the experimental group in Reading Comprehension scores in second grade as measured by Iowa Test of Basic Skills when analyzed by Standard Age Score.

Research Question 3

Related to Parent Perception of Success

Do Parents feel the PAL program had prepared their child for success in school?

Parents were asked to complete a four question survey and add comments.

Conclusions

This section will be divided so that the first statements will be related to the general research question, followed by specific research hypotheses, and concluded with a general discussion.

Conclusions for Research Question 1

Related to Kindergarten Performance

Will a Kindergarten literacy intervention decrease the difference between the control group of Kindergarten students who did not receive the intervention and the experimental group of Kindergarten students who received the intervention?

Conclusion for Hypothesis 1

The hypothesis 1 was designed to investigate whether there was a significant difference in the Observation Survey scores of Kindergarten students who received a

literacy intervention and the scores of Kindergarten students who did not receive a literacy intervention.

The pre test scores on the Observation Survey served not only for student selection but also as baseline data to measure growth during the Kindergarten year. The Pre test scores on four sub tests: Letter Identification, Concepts About Print, Writing Vocabulary, and Hearing Sounds In Words, were analyzed using a t test procedure. The level of significance was set at the .05 level. The differences between the two groups were significant showing a significant learning gap existed before students entered Kindergarten.

The post test scores on the Observation Survey were analyzed using a t test procedure. The level of significance was set at .05. Findings showed that at the end of the intervention the differences of the control and experimental group scores on the LID, CAP and HSIW were not statistically significant. The differences of the scores on the WV were statistically significant as the experimental group performed higher than the control group.

The findings of the study relate to literacy tasks that are embedded in the curriculum of the intervention. At the end of the Kindergarten year the difference in the two groups was not significant. There was one difference of statistical significance in the post Writing Vocabulary sub-test. The difference showed an increased performance in the experimental group over the control group. This is an important notation because the control had a significant advantage in the beginning of the year.

Conclusion for Hypothesis 2

Hypothesis 2 was designed to investigate whether Standard Age Score measuring potential, affects the literacy concept scores of control group and experimental group on the Observation Survey.

The post-test scores of the Observation Survey were then analyzed for differences with Standard Age Score. A covariance procedure was conducted.

Findings indicate that the experimental group was able to catch up to the control group experiencing a literacy intervention. When analyzing for potential using the SAS three of the four sub-tests, Concepts About Print, Writing Vocabulary, and Hearing Sounds In Words, showed the experimental group had scored above the control group in a statistically significant way. It was therefore concluded that the intervention made a difference in the experimental group scores on the Observation Survey. On the fourth sub-test Letter Identification the two groups had no statistical difference.

Conclusions for Research Question 2

Related to Second Grade Performance

Will a Kindergarten literacy intervention have an effect on the reading performances of second grade students as measured by Reading Comprehension the ITBS?

The second major Research Question was designed to investigate whether a Kindergarten literacy intervention had an effect on the reading performances of second grade students as measured by the ITBS. The Reading Comprehension National Curve Equivalent scores were analyzed using a t test procedure. The level of significance was

set at .05. Findings showed that two years after treatment the experimental group performed significantly lower than the control group.

Conclusion for Hypothesis 3

Hypothesis 3 was designed to investigate whether there were significant differences in the Reading Comprehension scores when analyzed by Standard Age Scores. The findings indicate that there are significant statistical differences in the ITBS Reading Comprehension NCE scores. The control group scores were higher than the experimental group. It was concluded that Control group had made more progress at the end of second grade as measured in the ITBS Reading NCE scores.

Conclusion for Hypothesis 4

Hypothesis 4 investigates the effect of Standard Age Score on the ITBS Reading Comprehension Score. After adjusting the mean scores for potential, the Groups remain statistically significantly different. The differences decreased from one standard deviation in the unadjusted scores to .5 of a standard deviation in the adjusted scores. Standard Age Scores tell us that potential affects the Reading Comprehension but not to a statistical difference.

Conclusions for Research Question 3

Related to Parent Perception of Success

Do Parents feel the PAL program had prepared their child for success in school?

The research question was designed to investigate how the parent perceived their child's progress. Second grade students who had the Kindergarten intervention were sent a six-point survey of four questions. Twenty-one percent of the surveys were returned.

Sixty-six percent of the parents rated their child's first grade performance as successful to very successful. Fifty-two percent of the parents rated their child's second grade performance as successful to very successful. This indicates the impact of a Kindergarten intervention program on school performance in first and second grade.

It was therefore concluded that of the 21 percent of the parents that returned the surveys, more than half felt that their child was successful in first and second grade. The personal comments hand written by parents indicated the genuine interest they had for a program their child participated in two years previous. They indicated a strong impact the program had on their child's education.

Implications

This section contains the implications of the research. The first research question that this study addressed was "Will a Kindergarten literacy intervention decrease the difference between the control group of Kindergarten students who did not receive the intervention and the experimental group of Kindergarten students who did receive the intervention?" This study differed from many previous studies in that:

1. The sample included all Kindergarten students from the six most at-risk schools in a large urban school district. This allows for continuity of demographics, curriculum, and assessments.
2. This study was not limited to a matched pair selection of students, eliminating students without a match. Selection of students for the experimental group was based on literacy needs.
3. The control group was purposely not the same as the experimental control

group from the onset of the study.

4. The goal of the intervention was to impact the experimental group representing the lowest scoring students to catch up to their peers in the control group representing the highest scoring students.

5. The Kindergarten intervention was more than additional time spent at school in a traditional Kindergarten curriculum.

6. The intervention Project Accelerated Literacy is unique to this school district. PAL had a prescribed philosophy, curriculum, standards, and assessments that increased the literacy experiences in developmentally appropriate activities.

The results of the investigation showed that a Kindergarten literacy intervention demonstrated higher gain scores on all four of the literacy assessments. The experimental group accelerated their literacy learning to be equal to their peers in the control group. This is one indication that the learning gap between these two groups of students did not exist on the literacy measures of the Observation Survey after the treatment.

The second research question this study asked was "Will a Kindergarten literacy intervention have an effect on the reading performances of second grade students?"

This study differed from many other studies in that:

1. The school district was large enough to accommodate for mobility. Although the students did not always remain in their originating schools, 72 to 77 percent of the students continued attendance within the school district two years after the treatment.

2. Reading scores on a standardized test are not the only indicators of success. The Kindergarten assessment was a criterion based performance test administered individually, while the second grade assessment was a norm referenced group test. A student's Standard Age Score was a contributing factor in measuring reading success.

The results of the study show that the students who received a Kindergarten literacy intervention did not retain the gains they made compared to the control group. The implication is that an additional safety net for struggling learners needs to continue into first grade.

3. This study focused on the literacy experiences as the intervention not merely on clock hours in school. Thus previous studies of full day Kindergarten v. half day Kindergarten are not of value until the program implemented is the focus of the research.

The third research question that this study asked was, "Did parents feel the PAL program had prepared their child for success in school?" This studied differed from many previous studies in that:

1. Parents were sent surveys two years after the intervention.
2. The return rate was 21.2 percent with less than 10 percent of the parents rating school progress difficult or very difficult.
3. The small return on the surveys is an indication of the level of parent involvement with the school.

The results of the Kindergarten year showed that both groups performed similarly on literacy assessments at the end of the year. This is not to suggest that both groups are the same. The experimental group still contains the more vulnerable learners. The fact that they entered school with a literacy gap indicates the home preparation and support was not as literacy rich as the control group.

The other overwhelming factor in their continued success after Kindergarten is that of classroom instruction during the most important first grade year. The success from the Kindergarten intervention shows the students are capable of learning at the same level as their peers, but the first grade instruction must be consistent and specialized for struggling learners.

The assessments at the second grade level indicate that although the experimental group is working up to potential they are performing below their peers. Additional assessments in writing should be administered as Writing Vocabulary showed to be a strong area for the experimental group. Individualized performance assessments need to be added as these students often lack the vocabulary and background knowledge for the standardized tests.

The accelerated progress that they experienced in Kindergarten needed to be continued until the primary years of learning how to learn have been fulfilled. It is suggested that an additional safety net be in place in first grade for at-risk schools and continued in second grade if necessary. The Kindergarten intervention is closely tied to to the Reading Recovery program in philosophy, focus, and assessments. It is

recommended that the Reading Recovery program be available to all Kindergarten students if needed.

The parent support needs to be cultivated through out the primary years not just assessed after two years.

Suggested Further Research

Based on the findings and conclusions of this study, the following recommendations for future research are offered:

1. The present intervention was a half-day program for 30 weeks during the Kindergarten year. With encouraging results at the end of the intervention, it is suggested an additional support be in place for these students in grade one. These results should be studied.
2. There is a gap of achievement between the end of Kindergarten and end of second grade. Additional assessments need to be in place in the first grade year to monitor growth.
3. Level of home support is characteristic of students from schools with at-risk factors. Home support needs to be complemented by school support (Snow, 1997). The home and school supports for the students at these schools should be evaluated and interventions should be put into place.

Questions Resulting From this Study?

1. How much effect does the regular Kindergarten program have on the progress of the experimental students?
2. What effect does the change of teachers have on the Kindergarten child

needing an intervention?

3. What effect does busing students to intervention sites have on student progress?

4. Will this intervention have the same effect on literacy growth for students who enter with higher scores?

5. What reading comprehension scores would the experimental group have had if the intervention did not take place?

Summary

This study has shown the strong impact of a Kindergarten literacy intervention on the acquisition of literacy concepts. This research adds to the emergent literacy data to support additional literacy experiences during the Kindergarten year. Although the second grade control group scored higher in reading comprehension than the experimental group, at this point there is no way of knowing how different the scores would be if the intervention did not occur.

APPENDIX A

SURVEY QUESTIONNAIRE

June, 1999

To the parent of

I am the director of the **PAL** (Project Accelerated Literacy) program that your child attended during his/her **Kindergarten** year. Your child's continued progress in school is important to me. The PAL program was only the beginning. I am anxious to know how your child's progress in school has continued.

Please share your information, so the program may grow to meet the needs of children. Thank you for taking the time to fill this out, you do not need to sign this unless you choose to do so, use the enveloped provided. If you have any questions about this survey, please call me at (847) 888-5000, ext. 7192.

Sincerely,

Mary Hausner

PAL Director

Project
Accelerated
Literacy

PARENT SURVEY

1. How did <u>your child</u> feel about **beginning First Grade**?
   Circle a number.

   1_____2_____3_____4_____5_____6
   scared average very confident

2. How <u>prepared</u> was your child for **beginning First Grade**?
   Circle a number.

   1_____2_____3_____4_____5_____6
   unprepared average very prepared

3. Please give me your opinion of your child's **First Grade Progress**.
   Circle a number.

   1_____2_____3_____4_____5_____6
   very difficult average very successful

4. Please give me your opinion of your child's **Second Grade Progress**
   Circle a number.

   1_____2_____3_____4_____5_____6
   very difficult average very successful

What else would you like me to know about your child's experience in **PAL**?

Table 9

Survey Results from Parents of PAL Students Two Years after Treatment

1. How did your child feel about **beginning First Grade?**

	RESPONSE VALUE					
	1	2	3	4	5	6
	Scared		average			very confident
N=21	0	0	2	5	6	8
%	0	0	9.52	23.80	28.57	38.09

Table 10

Survey Results from Parents of PAL Students Two Years after Treatment

2. How prepared was your child for **beginning First Grade?**

	RESPONSE VALUE					
	1	2	3	4	5	6
	Unprepared		average			very prepared
N=21	1	0	2	5	5	8
%	4.76	0	9.52	23.80	23.80	38.09

Table 11

Survey Results from Parents of PAL Students Two Years after Treatment

3. Please give me your opinion of your child's **First Grade Progress.**

	RESPONSE VALUE					
	1	2	3	4	5	6
	very difficult		average			very successful
N=21	0	2	2	3	7	7
%	0	9.52	9.52	14.28	33.33	33.33

Table 12

Survey Results from Parents of PAL Students Two Years after Treatment

4. Please give me your opinion of your child's **Second Grade Progress**.

	RESPONSE VALUE					
	1	2	3	4	5	6
	very difficult		average			very successful
N=21	0	2	4	4	5	6
%	0	9.52	19.04	19.04	23.80	28.57

REFERENCE LIST

Allington, R., & Cunningham, P. (1996). Schools that work: Where all children read and write. New York, NY: Harper Collins.

Ball, E. W., & Blachman, B. A. (1991). Does phoneme awareness training in kindergarten make a difference in early word recognition and developmental spelling? Reading Research Quarterly, 26, 49-66.

Bentin, S., & Leshem, H. (1993). On the interaction between phonological awareness and reading Acquisition: It's a two-way Street. Annals of Dyslexia, 43, 125-148.

Bodrova,, E. & Leong, D.J. (1996). Tools of the mind: The Vygotskian approach to early childhood education. Englewood Cliffs, NJ: Merrill/Prentice Hall.

Boyer, E. (1995). The basic school: A community for learning. Princeton, NJ: The Carnegie Foundation for the Advancement of Teaching.

Bredekamp, S., & Copple C. (Eds.) (1997). Developmentally appropriate practice in early childhood programs. Washington, DC: National Association for the Education of Young Children.

Brady, S., Fowler, Stone, & Winbury. (1994). Training phonological awareness: A study with inner-city kindergarten. Annals of Dyslexia, 44, 27-59.

Braunger, J., & Lewis, J. (1998). Building a knowledge base in reading. Oregon: Northwest Regional Educational Laboratory's Curriculum and Instruction Services.

Bus, A. G., & van Ijzendoorn, M. H. (19). Affective dimension of mother-infant picturebook reading. Journal of School Psychology, 35, 1-14 .

Bus, A. G., van Ijzendoorn, M. H., & Pell, A. D. (1995). Joint book reading makes for success in learning to read: A meta-analysis on intergenerational transmission of literacy. Review of Educational Research, 65, 1-21.

Chall, J. (1967). Learning to read: The great debate. New York, NY: McGraw Hill.

Clay, M. M. (1966). Emergent reading behavior. Unpublished doctoral dissertation, University of Auckland, Auckland.

Clay, M. M. (1979). Stones--Concepts about print test. Auckland, NZ: Heinemann.

Clay, M. M. (1985). The early detection of reading difficulties, 3rd Ed. Auckland, NZ: Heinemann. (Includes test booklets "Sand" and "Stones")

Clay, M. M. (1989). Concepts about print in English and other languages. The Reading Teacher, 42, 268-275.

Clay, M. M. (1990). What is and what might be in evaluation (Research Currents). Language Arts, 67, 288-98.

Clay, M. M. (1991). Becoming literate: The construction of inner control. Portsmouth, NH: Heinemann.

Clay M. M. (1993). An observation survey of early literacy achievement. Portsmouth, NH: Heinemann.

Clay, M. M. (1998). By different paths to common outcomes. Maine: Stenhouse Publishers.

Cunningham P., & Allington, R. (1999). Classrooms that work, they can all read and write. New York, NY: Longman.

Day, H. D., & Day, K. (1980). The reliability and validity of the concepts about print and record of oral language. Arlington, VA: Resources in Education. (ERIC Document Reproduction Service No. ED 179 932)

Ehri, L. (1983). A critique of five studies related to letter-name knowledge and learning to read. In L. Gentile, M. Kamil, & J. S. Blanchard (Eds.), Reading research revisited (pp. 143-153). Columbus, OH: Merrill.

Ehri, L. (1989). The development of spelling knowledge. Journal of Learning Disabilities, 22, 356-365.

Ehri, L. (1995). Phases of development in learning to read words by sight. Journal of Research in Reading, 18(2), 116-125.

Elley, W. B. (1994). The IEA study of reading literacy: Achievement and instruction in thirty-two school systems. Oxford: Pergamon.

Field, T. (1980). Preschool play: Effects of teacher/child ratios and organization. Child Study Journal, 10, 191-205.

Fountas, I.. G., & Pinnell, G. S. (1996). Guided reading: Good first yeaching for all children. Portsmouth NH: Heinemann.

Ferguson, P. (1991). Longitudinal outcome differences among promoted and transitional at-risk kindergarten students. Psychology in the Schools, 28, 139-146.

Goodman, Y. M. (1982). Concepts about print: Reviewed by Yetta Goodman. In M. M. Clay (Ed.), Observing young readers: Selected papers (pp. 83-88). Portsmouth, NH: Heinemann.

Goswami, U., & Mead, F. (1992). Onset and rime awareness and analogies in reading. Reading Research Quarterly, 27, 152-162.

Green, J., & Dixon, C. (1996). Language of literacy dialogues: Facing the future or reproducing the past. Journal of Literacy Research, 28 (2), 290-301.

Guthrie, J. (1997, January). The director's corner NRRC News: A Newsletter of the National Reading Research Center, 3.

Harris, T., & Hodges, R. (Eds.) (1995). The literacy dictionary, the vocabulary of reading and writing. Newark, DE: International Reading Association.

Hiebert, E., & Taylor, B. (1994). Getting reading right from the start, effective early literacy interventions. Boston, MA: Allyn & Bacon.

Hill, P. W., & Crevola, C. A. M. (1997). The literacy challenge in Australian primary schools. IARTV Seminar Series, 69, 3-20.

Hill, P. W., & Crevola, C. A. M. (1999). The role of standards in educational reform for the 21st century. In D. Marsh (Ed.), Preparing our schools for the 21st century (p. 118). Alexandria, VA: ASCD.

Hohn, W. E., & Ehri, L. (1983). Do alphabet letters help pre readers acquire phonemic segmentation skills? Journal of Educational Psychology, 75, 752-62.

Impara, J., & Pake, B. (Eds.) (1998). The thirteenth mental measurements yearbook. Lincoln, NE: The Buros Institute of Mental Measurement.

International Reading Association & National Council of Teachers of English. (1996). Standards for the English language arts. Newark, DE: International Reading Association & Urbana, IL: National Council of Teachers of English.

International Reading Association. (1997, January). The role of phonics in reading instruction (A position statement of the International Reading Association). Newark, DE: International Reading Association.

Jenkins, J., Bausell, R., & Jenkins. (1972). Comparisons of letter name and letter-sound training as transfer variables. American Educational Research Journal, 9, 75-86.

Johns, J. L. (1984). First graders' concepts about print. Reading Research Quarterly, 15, 529-549.

Juel, C. (1988). Learning to read and write: A longitudinal study of 54 children from first through fourth grades. Journal of Educational Psychology, 80(4), 437-447.

Klesius, J. P., & Griffith, P. L. (1966). Interactive storybook reading for at-risk learners. The Reading Teacher, 49, 552-560.

Knight, H. (1997). U. S. immigrant level at highest peak since '30s. Los Angeles Times, 9 April.

Krashen, S. (1995). School libraries public libraries and the NAEP reading scores. School Library Media Quarterly, 23, 235-237.

Lyons, C., Pinnell, G. S., & DeFord, D. (1993). Partners in literacy, teachers and children in reading recovery. New York, NY: Teacher College Press.

McGee, L. M., & Purcell-Gates, V. (1997). "So what's going on in research on emergent literacy?" Reading Research Quarterly, 32, 310-318.

McQuillan, J. (1998). The literacy crisis: False claims, real solutions. Portsmouth, NH: Heinemann.

Mooney, M. (1990). Reading to, with, and by children. Katonah, NY: Richard C. Owen Publishers Inc.

Morris, D. (1984). Developmental spelling as a predictor of first grade reading achievement. Elementary School Journal, 84, 440-457.

Morris, D. (1993). The relationship between children's concept of word in text and phoneme awareness in learning to read: A longitudinal study. Research in the Teaching of English, 27, 133-154.

Morris, D. (1996). Children's development of printed word knowledge in sentence based reading approaches. Reading Horizons, 36, 340-353.

Morrow,L. M.(1996). Motivating reading and writing in diverse classrooms: Social and physical contexts in a literature-based program (Research report no. 28). Urbana IL: National Council of Teachers of English.

Mullis I., Campbell, and Farstrup. (1993). NAEP 1992 reading report card for the nation and the states. Washington, DC: National Center for Education Statistics.

Neuman, S. B., & Roskos, K. (1992). Literacy objects as cultutral tools and effects on children's literacy behaviors in play. Reading Research Quarterly, 27, 203-225.

Neuman, S. B., & Roskos, K. (1997). Literacy knowledge in practice: Contexts of participation for young writers and readers. Reading Research Quarterly, 32,10-32.

New Zealand Ministry of Education. (1996). The learner as a reader: Developing reading program. Wellington, NZ: Learning Media.

Nye, B. A., et al. (1992). Lasting benefits study: A continuing analysis of the effects of small class size in kindergarten through third grade on student achievement test scores in subsequent grade levels: Fifth grade executive summary. (ERIC, ED 354992).

Pinnell, G. S., Lyons, C. A., DeFord, D. E., Bryk, A. S., & Seltzer, M. (1994). Comparing instructional models for the literacy education of high-risk first graders. Reading Research Quarterly, 29, 9-39.

Pressley, M. (1998). Reading instruction that works, the case for balanced teaching. New York, NY: Guilford Press.

Ramaswami, S. (1994). The differential impact of reading recovery on the achievement of first graders in the Newark school district, 1991-1993. (ERIC Document Reproduction Services No. ED 374 180).

Richgels, D. J., Poremba, K. J., & Mc Gee, L. M. (1966). Kindergarteners talk about print: Phonemic awareness in meaningful contexts. The Reading Teacher, 49, 632-642.

Robbins, C., & Ehri, L. (1994). Reading storybooks to kindergarteners helps them learn new vocabulary words. Journal of Educational Psychology, 86, 54-64.

Robinson, M. H. (1967). Insights from research: Children's behavior while reading. (Ed.), Help for the reading researcher: New directions in research. National Conference on Research in English.

Routman, R. (1996). Literacy at the crossroads. Portsmouth, NH: Heinemann.

Shanahan, T., & Barr, R. (1995). Reading recovery: An independent evaluation of the effects of an early instructional intervention for at-risk learners. Reading Research Quarterly, 30, 958-995.

Snow, C. E., Burns, M. S., Burns, & Griffin, P. (Eds.) (1998). Preventing reading difficulties in young children. Washington, DC: National Academy Press.

Southern Regional Education Board. (1994). Getting schools ready for children: The other side of the readiness goal [Brochure]. Florida: Author.

Stanovich, K. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. Reading Research Quarterly, 21, 360-407.

Sweet. (1993). State of the art: Transforming ideas for teaching and learning to read. Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement.

Vygotsky, L. S. (1978). Mind in society: The development of psychological processes. Cambridge, MA: Harvard University Press.

Weaver, C. (1994). Reading process and practice: From socio-psycholinguistics to whole language (2nd ed.). Portsmouth, NH: Heinemann.

Zemelman, S., Daniels, H., & Hyde, A. (1998). Best practice: New standards for teaching and learning in America's schools. Portsmouth, NH: Heinemann.

VITA

The author, Mary Interrante Hausner, was born in Chicago, Illinois on September 8, 1946. Her elementary education was completed at St. Mary's in DesPlaines, Illinois. She is a 1964 graduate of St. Patrick's Academy, also in DesPlaines, Illinois.

She earned a Bachelor of Science in Elementary Education in 1968 from Northern Illinois University in DeKalb, Illinois. In 1973 she received a Master of Arts in Teaching of Language Arts from Northeastern Illinois University, Chicago, Illinois. In 1985 she completed a Certificate of Advanced Studies in Reading from National College of Education, Evanston, Illinois. She completed the necessary steps for earning an Illinois Type 75 Administrative certificate in administration and supervision from Concordia University, River Forest, Illinois. She entered the doctoral program in Curriculum and Instruction at Loyola University Chicago in the fall of 1997.

Mary Hausner taught first grade in Skokie District 68 at Jane Stenson School. Upon moving to Dundee, Illinois she taught first through fifth grades and middle and high school reading. She was a reading specialist at Huff Elementary, Elgin, Illinois and was trained as a Reading Recovery teacher until she assumed administrative duties.

Currently, Mary Hausner is the Reading and Language Arts Coordinator for School District U-46, Elgin, Illinois and is the Director for Project Accelerated Literacy and supervises kindergarten literacy teachers.